Atmospheric Observation Panel for Climate (AOPC):
Surface pressure group workshop
Norwich 20th –21st November, 2002
Workshop minutes

1. Present (further details in Annex 1)

Patricio Aceituno
Tara Ansell
Manola Brunet-India
Svetlana Iagovkina
Victor Lagun
Maurizio Maugeri
Andreas Philipp
Val Swail
Pascal Yiou
Enric Aguilar
Lars Barring
Shyh Chen
Phil Jones
David Lister
Anders Moberg
Oscar Saladie
Scott Woodruff
Rob Allan
Theo Brandsma
Gil Compo
John Kington
Jürg Luterbacher
David Parker
Vicky Slonosky
David Wuertz

Minutes taken by: Tara Ansell

2. Workshop outline

(A summary of each presentation is provided in the long minutes and copies of each presentation will also be available on the web site shortly.)

2.1 Presentations on Historical MSLP data: compilations and quality control

Introduction and welcome
Rob Allan
GHCN project
David Wuertz
Hadley Centre MSLP data base
Rob Allan
Comparison of ICOADS ship observations with US Historical Weather Maps 1899-1939
Gil Compo
Canadian historical MSLP data and future plans
Vicky Slonosky
Dutch and colonial (Indonesian and Japanese) historical MSLP.
Theo Brandsma
Historical MSLP data from Estonia and Poland
Lars Barring
Russian historic Antarctic surface pressure data management
Victor Lagun
Summary of EMULATE meeting
Phil Jones
Air pressure data in Italy
Maurizio Maugeri

2.2 Presentations on Historical MSLP: analyses and data extensions

Historical MSLP data from Norway, Sweden and Finland
Anders Moberg
Feasibility of reanalysis before the radiosonde era.
Gil Compo
Surface pressure observation: a view from Reanalysis
Shyh Chen
Trends in HadSLP and MSLP data
Rob Allan (for Nathan Gillett)
ICOADS data
Scott Woodruff
A new version of HadSLP using ICOADS data.
Tara Ansell

2.3 Open discussion led by Rob Allan

The main topic of the discussion on day one was the proposal to set up international MSLP data bases (see section 3), and the technical issues involved. Discussion also included issues such as digitisation and tracking down missing data sources.

Discussion on day two concentrated on gridded analyses, drawing from recommendations made at the January 2002 Boulder workshop on Advances in the Use of Historical Marine Climate Data. Recommendations from this meeting were presented by David Parker (see presentation file). Discussion then moved on to various topics including reanalysis fields, copyright issues, homogenisation and error assessment.

3. Executive summary and recommendations

3.1 International data base

The group will aim to set up an international monthly pressure data base. It was also deemed to be important to set up a separate data base of sub daily observations and, accordingly, the development of a international operational pressure data base was also initiated. David Wuertz and Gil Compo volunteered to be administrators of the monthly and operational data bases respectively, with input from the Hadley Centre.

No final decision was made about the inclusion of other variables such as wind speed and direction in the data bases and it was agreed to keep this issue open for later discussions. However the group agreed, if resources permit, it is better to digitise a number of variables at one time, rather than just pressure.

The need to adopt a uniform data format was recognised. We will work towards using the International Maritime Meteorological Archive (IMMA) format, or a variant thereof, and adapt this to work with terrestrial pressure observations. This will simplify user access, allow us to store more than one variable and to maintain more detailed meta data. It is however best suited for the

operational rather than monthly data base. *Details of this format are now available as a separate pdf document*.

3.2 Outstanding data issues

The group notes the need to raise awareness of a number of important records that are missing. Rob Allan suggested to the group that they compare their own pressure holdings with the scanned images on the NOAA library site (http://docs.lib.noaa.gov/rescue/data_rescue_home.html). This site has near complete records of a number of foreign data holdings and publications. There are some gaps in these records, however, and it would be desirable to fill in some of these missing years.

Rob Allan and Tara Ansell will check for the Hong Kong daily records in the Met Office's library. *We have found some daily observations from 1853-1862, 1866-1886 since the meeting. We will keep searching!*

David Parker will investigate the Gordon Manley pressure records. *Since the meeting David has been able to find evidence that Gordon Manley did indeed collate pressure observations and there appears to be coverage for London from 1770.*

We have the potential to take the London and Paris records back to the 17th Century, possibly earlier. Work on these two cities was highlighted as being very important. Phil Jones in particular commented that despite their relatively close proximity, London and Paris are quite different series and hence provide a good measure of the North Atlantic Oscillation (NAO).

3.3 Reanalysis fields

The group agreed to Phil Jones' recommendation to write a formal letter, acting on behalf of AOPC, to ECMWF requesting that their reanalysis data be made freely available. *The co-convenors of the AOPC pressure working group will write the letter, to then be approved by the members of AOPC and forwarded on to ECMWF by the head of AOPC.*

3.4 Homogenisation of series

Phil Jones requested that series being homogenised should be done so according to the current operating standard (i.e. observing hours and/or averaging scheme), thereby preventing the need for further adjustments when blending in current observations.

3.5 Errors

One recommendation from the Boulder Workshop was to produce, in time for the 4th IPCC assessment, grid box uncertainties and error covariance structures in gridded MSLP products. This led to discussion on how to estimate errors with terrestrial observations. The group was asked to consider the following issues:

- can we look simply at the number of observations per day?
- are there any consistent errors, such as urbanisation effects with temperature?
- any gross potential bias?
- do we want to ignore / reject the very high altitude stations or how should we handle them?

This will be reviewed at follow-up meetings.

4. Close of meeting

Rob Allan closed the meeting by thanking all for attending and for their contributions. The minutes will be made available on the web shortly and he hoped that this was an initial step forward to forging greater international ties. The next opportunity for discussions will be in Asheville in June, 2003.

In addition to this summary, 'long' minutes of the meeting are now available.

5. Additional Information

5.1 How to retrieve the GCHN version 2 data?

- ftp ftp.ncdc.noaa.gov
- cd /pub/data/ghcn/v2
- prompt
- mget *slp*
- bye

5.2 Useful web sites and relevant projects:

AOPC:
http://www.wmo.ch/web/gcos/aopc.htm
NOAA Library:
http://docs.lib.noaa.gov/rescue/data_rescue_home.html
ECA & D:
http://www.knmi.nl/samenw/eca/index.html
ICOADS:
http://www.cdc.noaa.gov/coads/
CLIWOC:
http://www.ucm.es/info/cliwoc/
DARE:
http://www.wmo.ch/web/wcp/wcdmp/
READER project:
http://www.antarctica.ac.uk/met/READER/
ADVICE:
http://www.uea.ac.uk/~f094/advice.html
IMPROVE:
http://www.cru.uea.ac.uk/cru/projects/improve/

Climate Database Modernisation Program (CDMP):

Steve Doty is the Program Manager for the Climate Database Modernisation Program (CDMP). His email address is Stephen.R.Doty@noaa.gov. He should be contacted by anyone who has a data set consisting of 1,000 or more documents that needs digitising. Steve can explain or send information on the CDMP and its proposal process. He has an annual brochure on the program with guidelines for submitting proposals.

The CDMP's budget (funded by the U.S. Congress) last year was very large, and NCDC manages contractors for digitising the data that involve over 1400 employees! They are quite busy, so it is very important for anyone interested to learn about the proposal process as soon as possible. Proposals involving data sets that nicely complement others that are already funded for digitising are very likely to be accepted.

Information on the CDMP project was provided by David Wuertz.

Annex 1: List of attendees

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